

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-17 and 20 are amended. Claims 1-20 are pending.

Obviousness Double-Patenting

The Office rejected 1-3, 6-8, 11, 13, 14, 16-18 and 20 under the judicially created doctrine of obviousness-type double patenting. The Applicant is including herewith a terminal disclaimer with regards to US. Patent No. 6,684,201. Therefore, withdrawal of the rejection is respectfully requested.

35 U.S.C. §102

Claims 1-20 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,282,507 to Horiguchi (hereinafter, "Horiguchi"). Independent Claims 1, 6, 11, 13, 14, 16, 17 and 20 have been amended as indicated below.

Claim 1 has been amended, and as amended (portions of the amendment appear in bold/italics below), recites a *system* comprising:

- *means for* defining a set of reduced regular expressions for particular patterns in strings, *wherein the set of reduced regular expressions has less expressiveness than a set of regular expressions*; and
- *means for* learning, from a training set, a knowledge base that uses the reduced regular expressions to resolve ambiguity based upon the strings in which the ambiguity occurs, wherein the learning *means is configured to perform* transformation sequence learning to create a set of rules that use the reduced regular expressions to resolve ambiguity based upon the strings in which the ambiguity occurs.

Support for the amendment may be found throughout the specification and drawings as filed, an example of which is shown in FIG. 1 and accompanying discussion.

Claim 6 has been amended, and as amended (portions of the amendment appear in bold/italics below), recites a *system* comprising:

- *means for* defining a set of reduced regular expressions for particular patterns in strings, *wherein the set of reduced regular expressions has less expressiveness than a set of regular expressions*; and
- *means for* learning, from a training set, a knowledge base that uses the reduced regular expressions to resolve ambiguity based upon the strings in which the ambiguity occurs, wherein the set of reduced regular expressions specify types of patterns that are allowed to be explored when learning from the training set.

Support for the amendment may be found throughout the specification and drawings as filed, an example of which is shown in FIG. 1 and accompanying discussion.

Claim 11 has been amended, and as amended (portions of the amendment appear in bold/italics below), recites a *system* comprising:

- *means for* receiving a string with an ambiguity site;
- *means for* applying reduced regular expressions to describe a pattern in the string, wherein the reduced regular expressions:
 - are included in a knowledge base that is learned from a training set;
 - *have less expressiveness than regular expressions*; and

- specify types of patterns that are allowed to be explored when the knowledge base is learned; and

- selecting one of the reduced regular expressions to resolve the ambiguity site.

Support for the amendment may be found throughout the specification and drawings as filed, an example of which is shown in FIG. 1 and accompanying discussion.

Claim 13 has been amended, and as amended (portions of the amendment appear in bold/italics below), recites a *system* comprising *means for*:

- receiving a string with an ambiguity site;
- applying reduced regular expressions to describe a pattern in the string, wherein:
 - the applying includes applying a set of very reduced regular expressions that are a proper subset of the reduced regular expressions; and
 - *the reduced regular expressions have less expressiveness than regular expressions*; and
- selecting one of the reduced regular expressions to resolve the ambiguity site.

Support for the amendment may be found throughout the specification and drawings as filed, an example of which is shown in FIG. 1 and accompanying discussion.

Claim 14 has been amended, and as amended (portions of the amendment appear in bold/italics below), recites a *system* comprising:

- means for receiving a string with an ambiguity site;

- 1 • *means for* applying reduced regular expressions to describe a pattern in
- 2 the string, wherein *the reduced regular expressions*:
- 3 ○ are included in a knowledge base that is learned from a training
- 4 set;
- 5 ○ *have less expressiveness than regular expressions*; and
- 6 ○ specify types of patterns that are allowed to be explored when the
- 7 knowledge base is learned; and
- 8 • *means for* selecting one of the reduced regular expressions to resolve
- 9 the ambiguity site.

10 Support for the amendment may be found throughout the specification and
 11 drawings as filed, an example of which is shown in FIG. 1 and accompanying
 12 discussion.

13 **Claim 16** has been amended, and as amended (portions of the amendment
 14 appear in bold/italics below), recites a *system comprising*:

- 15 • *means for reading* read a training set;
- 16 • *means for constructing* a graph having a root node that contains a
- 17 primary position set of the training set and multiple paths from the root
- 18 node to secondary nodes that represents a reduced regular expression
- 19 *that has less expressiveness than a regular expression*, the secondary
- 20 node containing a secondary position set to which the reduced regular
- 21 expression maps;
- 22 • *means for scoring* the secondary nodes to identify a particular
- 23 secondary node; and
- 24 • *means for identifying* the reduced regular expression that maps the path
- 25 from the root node to the particular secondary node.

1 Support for the amendment may be found throughout the specification and
2 drawings as filed, an example of which is shown in FIG. 1 and accompanying
3 discussion.

4 Claim 17 has been amended, and as amended (portions of the amendment
5 appear in bold/italics below), recites a training system comprising:

- 6 • a memory to store a training set;
- 7 • a processing unit; and
- 8 • *means*, executable on the processing unit, *for*:
 - 9 ○ *defining* a set of reduced regular expressions for particular
 - 10 patterns in strings of the training set, *wherein the set of reduced*
 - 11 *regular expressions has less expressiveness than a set of*
 - 12 *regular expressions*; and
 - 13 ○ *learning* a knowledge base that uses the reduced regular
 - 14 expressions to describe the strings wherein the reduced regular
 - 15 expressions specify types of patterns that are allowed to be
 - 16 explored when the knowledge base is learned from the training
 - 17 set.

18 Support for the amendment may be found throughout the specification and
19 drawings as filed, an example of which is shown in FIG. 1 and accompanying
20 discussion.

21 Claim 17 has been amended, and as amended (portions of the amendment
22 appear in bold/italics below), recites a system comprising:

- 23 • a memory to store a knowledge base that uses reduced regular
- 24 expressions to resolve ambiguity based upon strings in which the
- 25 ambiguity occurs, wherein:

- 1 ○ the knowledge base is learned from a training set using the
- 2 reduced regular expressions;
- 3 ○ the reduced regular expressions specify types of patterns that are
- 4 allowed to be explored when the knowledge base is learned; and
- 5 ○ *the reduced regular expressions have less expressiveness than*
- 6 *regular expressions;*
- 7 • a processing unit; and
- 8 • *means*, executable on the processing unit, *for*:
 - 9 ○ *receiving* a string with an ambiguity site; and
 - 10 ○ *applying* a reduced regular expression from the knowledge base
 - 11 that describes a pattern in the string to resolve the ambiguity site.

12 Support for the amendment may be found throughout the specification and
 13 drawings as filed, an example of which is shown in FIG. 1 and accompanying
 14 discussion.

15 As shown above, independent claims 1, 6 and 17 have been amended to
 16 include the limitation "the set of reduced regular expressions has less
 17 expressiveness than a set of regular expressions". Independent claims 11, 13, 14
 18 have been amended to include the limitation wherein the reduced regular
 19 expressions have "less expressiveness than regular expressions". Independent
 20 claim 16 has been amended to include the limitation that a reduced regular
 21 expression "has less expressiveness than a regular expression". Thus, each of the
 22 independent claims recites "expressiveness", which is not disclosed taught or
 23 suggested by Horiguchi. Therefore, these claims are allowable for at least this
 24 reason. In additional, each of the independent claims has been amended to recite
 25 "means for" language as requested by the Examiner, and therefore are also

1 allowable based on this reason, as well as for previously discussed reasons which
2 were recited in the previous office actions, and which will not be repeated so as
3 not to burden the record. Dependent claims 2-5, 7-10, 12 and 15 have been
4 amended for consistency with their respective independent claims.

5
6 **Conclusion**

7 All pending claims 1-20 are in condition for allowance. Applicant
8 respectfully requests reconsideration and prompt issuance of the subject
9 application. If any issues remain that prevent issuance of this application, the
10 Examiner is urged to contact the undersigned attorney before issuing a subsequent
11 Action.

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13 Respectfully submitted,

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